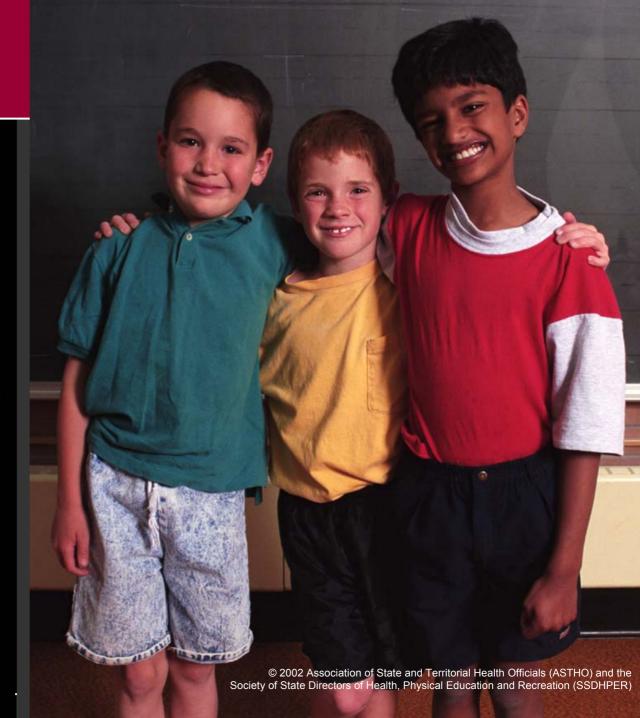
Making the Connection: Health and Student Achievement



Society of State Directors of Health, Physical Education and Recreation (SSDHPER)



Association of State and Territorial Health Officials (ASTHO)



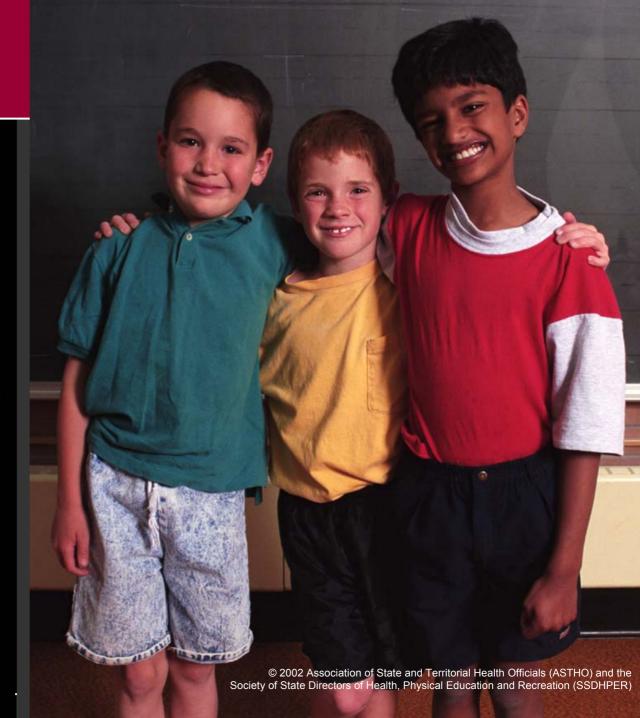
Making the Connection: Health and Student Achievement



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Association of State and Territorial Health Officials (ASTHO)



Presentation Objectives

- Provide an overview of research on links between health status, health behavior, and academic achievement
- Gain a greater understanding of the influence of school health programs on student success

Is student health the missing piece in school reform?



Carnegie Foundation

"Clearly, no knowledge is more crucial than knowledge about health. Without it, no other life goal can be successfully achieved."

> Boyer, E.L., The Carnegie Foundation for the Advancement of Teaching, 1983

U.S. Department of Education

"Too many of our children start school unready to meet the challenges of learning, and are adversely influenced by... drug use and alcohol abuse, random violence, adolescent pregnancy, AIDS, and the rest."

- U.S. Department of Education. America 2000
 An Education Strategy Sourcebook
- Department of Education, 1991

Former Surgeon General Dr. Antonia Novello

"Health and education go hand in hand: one cannot exist without the other. To believe any differently is to hamper progress. Just as our children have a right to receive the best education available, they have a right to be healthy. As parents, legislators, and educators, it is up to us to see that this becomes a reality."

Healthy Children Ready to Learn: An Essential
 Collaboration Between Health and Education, 1992

American Cancer Society

"[Children] ...who face violence, hunger, substance abuse, unintended pregnancy, and despair cannot possibly focus on academic excellence. There is no curriculum brilliant enough to compensate for a hungry stomach or a distracted mind."

National Action Plan for Comprehensive
 School Health Education. 1992

Good **Health** is Necessary for **Academic** Success



It is difficult for students to be successful in school if they are:

- depressed
- tired
- being bullied
- stressed
- sick
- using alcohol or other drugs
- hungry
- abused

Coordinated school health programs are a solution



Coordinated school health programs are a solution

- Engage parents, teachers, students, families, and communities
- Help keep students healthy
- Support learning and success in school
- Reinforce positive behaviors
- Help students develop knowledge and skills to make smart choices

What is a coordinated school health program?



Components of a coordinated school health program

- Family and community involvement
- Comprehensive school health education
- Physical education
- School health services
- Counseling, psychological, and social services
- School nutrition services
- Healthy school environment
- School-site health promotion for staff

Allensworth and Kolbe, 1987

Components of a coordinated school health program



How do the components of a coordinated school health program impact behavior or academic achievement?



FAMILY & COMMUNITY INVOLVEMENT



- Partnerships among schools, families, community groups, and individuals
- Designed to share and maximize resources and expertise in addressing the healthy development of children, youth, and their families

Health is Academic, 1998

FAMILY & COMMUNITY INVOLVEMENT



Students whose parents are involved in their education show:

- Significantly greater achievement gains in reading and math than students with uninvolved parents
- Better attendance
- More consistently completed homework
 - Henderson, 1987
 - Shaver and Walls, 1998





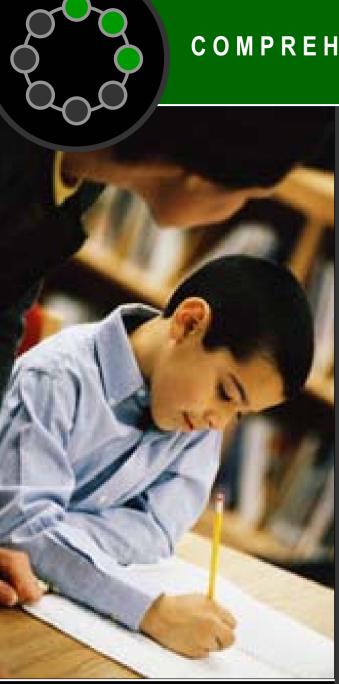
Community activities that link to the classroom:

- Positively impact academic achievement
- Reduce school suspension rates
- Improve school-related behaviors
 - Nettles, 1991
 - Allen, Philliber, Herring, and Kupermine, 1997



- Classroom instruction that addresses the physical, mental, emotional, and social dimensions of health; develops health knowledge, attitudes, and skills; and is tailored to each age level
- Designed to motivate and assist students to maintain and improve their health, prevent disease, and reduce health-related risk behaviors

Health is Academic, 1998



Students who participate in health education classes that use effective curricula:

 Increase their health knowledge and improve their health skills and behaviors

Connell, Turner, and Mason, 1985

- Decrease risky behaviors relative to the program
 - Botvin, Griffin, Diaz, Ifill-Williams, 2001
 - Dent, Sussman, Stacy, Craig, Burton, and Flay, 1995



 Reading and math scores of third and fourth grade students who received comprehensive health education were significantly higher than those who did not received comprehensive health education

Schoener, Guerrero, and Whitney, 1988



 73% of adults from a nationally representative sample felt that health education in schools was "definitely necessary"

Mid-continent Research for
 Education and Learning Survey 1998



 Students who had received a two-year social decision-making and problem-solving program in elementary school showed more pro-social behavior and less antisocial and self-destructive behaviors...when followed up in high school four to six years later

Elias, Gara, Schuyler,
 Branden-Muller, and Sayette, 1991



- Planned, sequential instruction that promotes lifelong physical activity
- Designed to develop basic movement skills, sports skills, and physical fitness as well as to enhance mental, social, and emotional abilities

Health is Academic, 1998



 Physical activity among adolescents is consistently related to higher levels of self-esteem and lower levels of anxiety and stress

Calfas and Taylor, 1994



 Physical activity is positively associated with academic performance

Dwyer, Blizzard, and Dean, 1996



 Students who participated in school physical education programs did not experience a harmful effect on their standardized test scores, though less time was available for other academic subjects

- Sallis, McKenzie, Kolody, Lewis,
 Marshall, and Rosengard, 1999
- Shephard, 1996
- Dwyer, Coonan, Leitch, Hetzel, and Baghurst, 1983

SCHOOL HEALTH SERVICES



- Preventive services, education, emergency care, referral and management of acute and chronic health conditions
- Designed to promote the health of students, identify and prevent health problems and injuries, and ensure care for students

Health is Academic, 1998

SCHOOL HEALTH SERVICES



- Early childhood and school aged intervention programs that provide parental support and health services are associated with improved school performance and academic achievement
- Early intervention may also improve high school completion rates and lower juvenile crime

 Reynolds, Temple, Robertson, and Mann, 2001





Schools with school-based health centers report:

- Increased school attendance
- Decreased drop-outs and suspensions
- Higher graduation rates
 - McCord, Klein, Foy, and Fothergill, 1993
 - Walters, 1996





- Activities that focus on cognitive, emotional, behavioral, and social needs of individuals, groups, and families
- Designed to prevent and address problems, facilitate positive learning and healthy behavior, and enhance healthy development

Health is Academic, 1998





A comprehensive intervention that combines teacher training, parent education, and social competency training for children had long-term positive impacts including:

- Enhanced greater commitment and attachment to school
- Less school misbehavior
- Better academic achievement

Hawkins, Catalano, Kosterman,
 Abbott, and Hill, 1999





A school-based social services program targeting students at risk for dropping out of school produced the following results:

- Grade point average increased across all classes
- School bonding increased
- Self-esteem improved

Eggert, Thompson, Herting,
 Nicholas, and Dicker, 1994





 Children who participated in a social service intervention aimed at promoting student success by improving parent-child and parent-teacher communication resulted in improved academic performance

Bowen, 1999

NUTRITION SERVICES



- Integration of nutritious, affordable, and appealing meals; nutrition education; and an environment that promotes healthy eating behaviors for all children
- Designed to maximize each child's education and health potential for a lifetime

Health is Academic, 1998





Food-insufficient children (ages 6 to 11) are more likely to:

- receive lower math scores
- repeat a grade
- visit a psychologist
- have difficulty getting along with other children

Alaimo, Olson, and Frongillo, 2001





Food-insufficient teens (ages 12 to 16) are more likely to:

- visit a psychologist
- be suspended from school
- have difficulty getting along with others
- have no friends

Alaimo, Olson, and Frongillo, 2001





School breakfast programs:

- increase learning and academic achievement
- improve student attention to academic tasks
- reduce visits to the school nurse
- decrease behavioral problems

Murphy, Pagano, Nachmani,
 Sperling, Kane, and Kleinman, 1998

NUTRITION SERVICES



 School breakfast programs positively impact academic performance, absenteeism, and tardiness among low-income elementary school students

Meyers, Sampson, Weitzman,
 Rogers, and Kayne, 1989





- The physical, emotional, and social climate of the school
- Designed to provide a safe physical plant, as well as a healthy and supportive environment that fosters learning

Health is Academic, 1998

HEALTHY SCHOOL ENVIRONMENT



- The physical condition of a school is statistically related to student academic achievement
- An improvement in the school's condition by one category, say from poor to fair, is associated with a 5.5 point improvement in average achievement scores

Berner, 1993





Students who develop a positive affiliation or social bonding with school are:

- More likely to remain academically engaged
- Less likely to be involved with misconduct at school

Simons-Morton, Crump,
 Haynie, and Saylor, 1999

SCHOOL-SITE HEALTH PROMOTION FOR STAFF



- Assessment, education and fitness activities for school faculty and staff
- Designed to maintain and improve the health and well-being of school staff who serve as role models for children

Health is Academic, 1998

SCHOOL-SITE HEALTH PROMOTION FOR STAFF



Teachers who participated in a health promotion program focusing on exercise, stress management, and nutrition reported:

- Increased participation in exercise and lower weight
- Better ability to handle job stress
- A higher level of general well-being

 Blair, Collingwood, Reynolds, Smith, Hagan, and Sterling, 1984





Students benefit from having healthy teachers because:

- Teachers are more energetic
- Teachers are absent less often
- The school climate is more optimistic

Symons, Cummings, and Olds. 1994

What do other national organizations and federal agencies say?



The National **Association** of State **Boards of Education** (NASBE) says...

"Health and success in school are interrelated. Schools cannot achieve their primary mission of education if students and staff are not healthy and fit physically, mentally, and socially."

Fit, Healthy, and Ready to Learn: Part 1 –
 Physical Activity, Healthy Eating, and Tobacco
 Use Prevention, 2000

The National Governors' Association (NGA) says....

"Policymakers need to focus on eliminating the barriers that affect these lower-performing students' readiness to learn. Among these barriers are physical and mental health conditions that impact students' school attendance and their ability to pay attention in class, control their anger, and restrain self-destructive impulses."

> Improving Academic Performance by Meeting Student Health Needs, 2000

The U.S. Department of Health and Human Services (HHS) says....

"Schools have more influence on the lives of young people than any other social institution except the family and provide a setting in which friendship networks develop, socialization occurs, and norms that govern behavior are developed and reinforced."

Healthy People 2010

Maddy, a
15-year-old
student from
Massachusetts,
says...

"I think schools could better promote the health of young people by talking more to adolescents about the hazards and how it affects them in many ways. I also think that schools should talk to students even when they are young. Most people think that young children don't understand, but young children are listening."

> NSBA School Health Programs Website, http://www.nsba.org/schoolhealth/youth.htm

Leaders like you agree...



Leaders like you agree...

"Our district has seen first-hand what a well-rounded health program can accomplish for all children, pre-K through 12th grade. There is no question in the minds of (our) educators that a complete school health program positively affects student achievement."

Edward VandenBulke, Superintendent,
 Stow-Munroe Falls City Schools

QUESTION:

What does this all mean?



MAKING THE CONNECTION: HEALTH AND STUDENT ACHIEVEMEN

ANSWERS!

Coordinated school health programs can impact students' academic achievement and increase healthy behaviors.

ANSWERS!

Coordinated school health programs empower students with the knowledge, skills, and judgment to help them make smart choices in life.

ANSWERS!

Healthy children make better students, and better students make healthy communities.

National Organizations Supporting Coordinated School Health Programs

- American Academy of Pediatrics
- American Alliance for Health, Physical Education, Recreation and Dance
- American Association for School Administrators
- American Cancer Society
- American College of Preventive Medicine
- American Dietetic Association
- American Heart Association
- American Psychological Association
- American Public Health Association
- American School Food Service Association

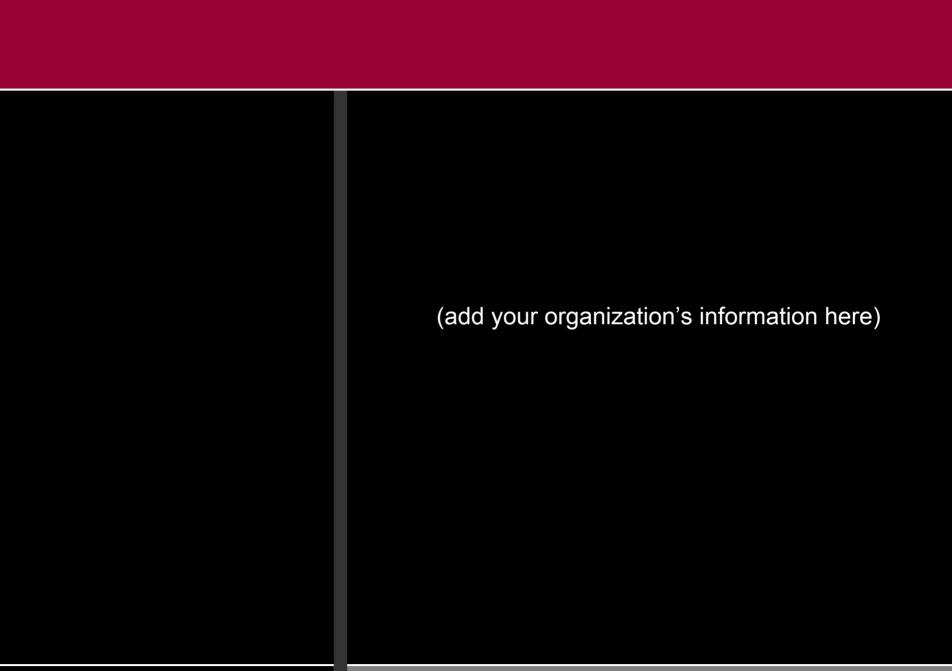
National Organizations Supporting Coordinated School Health Programs

- American School Health Association
- Association for Supervision and Curriculum Development
- Association of State and Territorial Chronic Disease Program Directors
- Association of State and Territorial Health Officials
- Council of Chief State School Officers
- Children's Environmental Health Network
- Girl Scouts of America
- National Assembly on School-Based Health Care

National Organizations Supporting Coordinated School Health Programs

- National Association of State and County Health Officials
- National Association of School Psychologists
- National Association of State Boards of Education
- National Education Association Health Information Network
- National School Boards Association
- Partnership for Prevention
- Society for Public Health Education
- Society of State Directors of Health,
 Physical Education and Recreation

And many others...



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About ASTHO

The Association of State and Territorial Health Officials (ASTHO) is the national non-profit organization representing the state and territorial public health agencies of the United States, the U.S. Territories, and the District of Columbia. ASTHO's members, the chief health officials of these jurisdictions, are dedicated to formulating and influencing sound public health policy and to assuring excellence in statebased public health practice.

For more information, please see www.astho.org, or contact ASTHO at 202-371-9090.

About SSDPHER

Established in 1926, the Society of State Directors of Health, Physical Education and Recreation is the professional association whose members supervise and coordinate programs in health, physical education, and related fields within state departments of education. Associate members are those who are interested in the goals and programs of the Society who do not work within a state education agency.

For more information, please see www.thesociety.org, or contact SSDHPER at 703-390-4599.

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Society of State Directors of Health, Physical Education and Recreation 75th Annual Meeting, March 2001

Maine State Coordinated School Health Summer Institute, August 2001

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Numerous members who contributed comments and advice

- Slide 5: Boyer, E.L. (1983). <u>High School Report on Secondary</u>

 <u>Education in America</u>. The Carnegie Foundation for the Advancement of Teaching.
- Slide 6: U.S. Department of Education. America 2000: An Education Strategy Sourcebook. Washington, D.C.: U.S. Department of Education; 1991:16-17.
- Slide 7: Novello, A.C., Degraw, C., Kleinman, D. (1992). Healthy children ready to learn: An essential collaboration between health and education. Public Health Reports, 107 (1),3-15.
- Slide 8: American Cancer Society. National Action Plan for Comprehensive School Health Education. Atlanta, GA: American Cancer Society; 1992:4-7.
- Slide 14: Allensworth, D. and Kolbe, L. (1987). The comprehensive school health program: Exploring an expanded concept. <u>Journal of School Health</u>, 57(10),409-412.

- Slides 17, 20, 25, 29, 32, 36, 41, 44: Marx, E., Wooley, S. F., and Northrup, D. (Eds.) (1998). <u>Health is Academic: A Guide to Coordinated School Health Programs</u>. Washington, D.C.: Education Development Center, Inc.
- Slide 18: National Committee for Citizens in Education. (1987). The
 Evidence Continues to Grow: Parental Involvement Improves
 Student Achievement. Ed. Anne Henderson. National Committee
 for Citizens in Education: Columbia, MD.
- Slide 18: Shaver, A.V. and Walls, R.T. (1998). Effect of Title I Parent Involvement on Student Reading and Mathematics Achievement.

 <u>Journal of Research and Development in Education</u>, 31(2),90-97.
- Slide 19: Nettles, S. (1991). Community involvement and disadvantaged students: A review. Review of Educational Research, 61(3),379-406.

- Slide 19: Allen, J. P., Philliber, S., Herrling, S., and Kupermine, G. P. (1997). Preventing teen pregnancy and academic failure:

 Experimental evaluation of a developmentally based approach.

 Child Development, 64(4),729-742.
- Slide 21: Connell, D., Turner, R., and Mason, E. (1985). Summary of findings of the school health education evaluation: Health promotion effectiveness, implementation, and costs. <u>Journal of School Health</u>, 55(8),316-321.
- Slide 21: Botvin, G.J., Griffin, K.W., Diaz, T., Ifill-Williams, M. (2001)

 Preventing binge drinking during early adolescence: one-and twoyear follow-up of a school-based preventive intervention.

 <u>Psychology of Addictive Behaviors</u>, 15(4),360-365.
- Slide 21: Dent, C., Sussman, S., Stacy, A., Craig, S., Burton, D. Flay, B. (1995). Two year behavior outcomes of project towards no tobacco use. Journal of Consulting and Clinical Psychology, 63(4),676-677.

- Slide 22: Schoener, J., Guerrero, F., and Whitney, B. (1988).

 The effects of the Growing Healthy program upon children's academic performance and attendance in New York City. Report from the Office of Research, Evaluation and Assessment to the New York City Board of Education.
- Slide 23: Mid-Continent Research for Education and Learning. (1998).

 What Americans believe students should know: a survey of U.S. adults, 39-45.

 http://www.mcrel.org/products/standards/survey.asp.
- Slide 24: Elias, M., Gara, M., Schuyler, T., Branden-Muller, L., and Sayette, M. (1991). The promotion of social competence:

 Longitudinal study of a preventive school-based program.

 American Journal of Orthopsychiatry, 61(3),409-417.
- Slide 26: Calfas, K. and Taylor, W. (1994). Effects of physical activity on psychological variables in adolescents. <u>Pediatric Exercise</u>
 Science, 6,406-423.

- Slide 27: Dwyer, T., Blizzard, L., and Dean, K. (1996). Physical activity and performance in children. <u>Nutrition Reviews</u>, 54(4),S27-S31.
- Slide 28: Sallis, J., McKenzie, T., Kolody, B., Lewis, M., Marshall, S., and Rosengard, P. (1999). Effects of health-related physical education on academic achievement: Project SPARK. Research Quarterly for Exercise and Sport, 70(2),127-134.
- Slide 28: Shepard, R.J. (1996). Habitual physical activity and academic performance. <u>Nutrition Reviews</u>, 54(4 supplement), S32-S36.
- Slide 28: Dwyer, T., Coonan, W.E., Leitch, D.R., Hetzel, B.S., and Baghurst, R.A. (1983). An investigation of the effects of physical activity on the health of primary school students in Australia.

 International Journal of Epidemiology, (12)3,308-313.

- Slide 30: Reynolds, A., Temple, J., Robertson, D., and Mann, E. (2001).

 Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. <u>Journal of the American Medical Association</u>, 285(18),2339-2346.
- Slide 31: McCord, M., Klein, J., Foy, J., & Fothergill, K. (1993). School-based clinic use and school performance. <u>Journal of Adolescent</u>
 <u>Health</u>, 14(2),91-98.
- Slide 31: Walters, G. (1996). A comparison of absentee/attendance rates in high schools with and without school based health clinics.

 Thesis submitted to Michigan State University.
- Slide 33: Hawkins, J., Catalano, R., Kosterman, R., Abbott, R., and Hill, K. (1999). Preventing adolescent health-risk behaviors by strengthening protection during childhood. <u>Archives of Pediatric Adolescent Medicine</u>, 153,226-234.

- Slide 34: Eggert, L., Thompson, E., Herting, J., Nicholas, L., and Dicker, B. (1994). Preventing adolescent drug abuse and high school dropout through an intensive school-based social network development program. <u>American Journal of Health Promotion</u>, 8(3),202-215.
- Slide 35: Bowen, N.K. (1999). A role for school social workers in promoting student success through school-family partnerships.

 Social Work in Education, 21(1),34-47.
- Slide 37, 38: Alaimo, K., Olson, C.M., and Frongillo, E.A. (2001). Food insufficiency and American school-aged children's cognitive, academic, and psychosocial development, 108(1),44-53.
- Slide 39: Murphy, J., Pagano, M., Nachmani, J., Sperling, P., Kane, S., and Kleinman, R. (1998). The relationship of school breakfast to psychosocial and academic functioning. <u>Archives of Pediatric Adolescent Medicine</u>, 152,899-907.

- Slide 40: Meyers, A., Sampson, A., Weitzman, M., Rogers, B., and Kayne, H. (1989). School breakfast program and school performance.

 American Journal of Diseases of Children, 143,1234-1239.
- Slide 42: Berner, M. (1993). Building conditions, parental involvement, and student achievement in the District of Columbia public school system. <u>Urban Education</u>, 28(1),6-29.
- Slide 43: Simons-Morton, B., Crump, A., Haynie, D., and Saylor, K.

 (1999). Student-school bonding and adolescent problem behavior.

 <u>Health Education Research</u>, 14(1),99-107.
- Slide 45: Blair, S., Collingwood, T., Reynolds, R., Smith, M., Hagan, D., and Sterling, C. (1984). Health promotion for educators: Impact on health behaviors, satisfaction, and general well-being. <u>American</u>
 Journal of Public Health, 74(2),147-149.

- Slide 46: Symons, C.W., Cummings, C.D., Olds, R.S. (1994). Healthy People 2000: An agenda for school site health promotion programming. In: Allensworth, D.D., Symons, C.W., Olds, R.S. Healthy Students 2000: An Agenda for Continuous Improvement in America's Schools. Kent, OH: American School Health Association, 1994.
- Slide 48: Bogden, J.F. (2000). <u>Fit, Healthy, and Ready to Learn: Part 1 Physical Activity, Healthy Eating, and Tobacco Use Prevention</u>.

 Washington D.C.: National Association of State Boards of Education.
- Slide 49: National Governors Association. (2000) Improving Academic Performance by Meeting Student Health Needs. <u>National Governors Association:</u> Washington, D.C.
- Slide 50: U.S. Department of Health and Human Services. *Healthy People* 2010 (Conference edition, in two volumes), Washington, D.C.; 2000. http://web.health.gov/healthypeople/Document/tableofcontents.htm.
- Slide 51: Student quote, NSBA School Health Programs Website, http://www.nsba.org/schoolhealth/youth.htm.